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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,883	06/20/2003	Venkataram Krishnan	9349-270CT	6675

20792 7590 02/03/2005

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EXAMINER	
KEEHAN, CHRISTOPHER M	

ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 02/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/600,883	KRISHNAN, VENKATARAM	
	Examiner	Art Unit	
	Christopher M. Keehan	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 December 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Double Patenting

Claims 21-30 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,599,638 B1 (Krishnan). Regarding claims 21-30 of the instant application, although the conflicting claims are not identical, they are not patentably distinct from each other for the following reason: the only difference between the instant claims and the claims of 6,599,638 B1 is that the claims of the instant application include at least 15 weight percent of nitrogen-containing monomers, and while claiming an emulsion polymer, do not claim a specific emulsion polymer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added an amount of nitrogen-containing monomers included in the instant amount because the range is broad enough to include most all possibilities, as the claimed range is at least 15 weight percent. Additionally, it is clear that the reference intended to encompass high amount (see col.3, line 64).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 16, 17, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by McKee et al. (6,177,525 B1). Regarding claims 16, 17, 19, and 20, McKee et al. disclose a composition comprising an emulsion polymer, which includes at least 15 weight percent of nitrogen-containing monomers (col.3, lines 36-40 and col.4, lines 4-10), crosslinking functionality, more specifically acrylonitrile (co.3, line 28), and a protective colloid of partially hydrolyzed polyvinyl alcohol (col.4, lines 58-65).

Claim Rejections - 35 USC § 103

Claims 18 and 19 are rejected are rejected under 35 U.S.C. 103(a) as being unpatentable over McKee et al. (6,177,525 B1) in view of Freidzon (5,629,370). McKee et al. disclose adding a protective colloid of polyvinyl alcohol hydrolyzed at 65-96 mol percent (col.4, lines 58-61). McKee et al. do not specifically teach that the polyvinyl alcohol is partially or fully hydrolyzed. Friedzon discloses a composition comprising an

emulsion polymer (Abstract) which includes crosslinkable functionality (col.4, lines 47-55), a limited amount of phenolics (col.3, lines 33-43), and which includes the addition of a protective colloid (col.2, lines 53-63) that is polyvinyl alcohol. Friedzon also discloses that a polyvinyl alcohol that is 87-89 mol percent hydrolyzed is partially hydrolyzed (col.2, lines 57-58), which would mean that a hydrolysis of more than 89 mol percent, such as that of up to 96 mol percent as contemplated by McKee et al. is considered fully hydrolyzed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used partially or fully hydrolyzed polyvinyl alcohol as taught by Friedzon in the composition of McKee et al. because Freidzon teaches that the polyvinyl alcohols of McKee et al. can be partially or fully hydrolyzed.

Claims 16, 17, 20-22, 25-27, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindemann et al. (5,190,997). Regarding claims 16, 17, 21, 22, 26, and 27, Lindemann et al. disclose a preferable polymer emulsion substantially devoid of phenolics (entire document) and a filter substrate impregnated with said polymer emulsion (col.10, lines 57-59) comprising a first polymer emulsion of polyacrylonitrile and a second polymer made from monomers of acrylonitrile (col.6, lines 21-29), the emulsion polymer having crosslinkable functionality (col.7, line 65-col.8, line 2) and having a protective colloid of polyvinyl alcohol (col.11, lines 7-16). Lindemann et al. disclose that the polymer emulsion contains from 5-95%, preferably 30 to 90% by weight of the first polymer emulsion, and preferable 10 to 70% by weight of the second

polymer emulsion (col.10, lines 43-47). At the least, this amount is 15% by weight nitrogen-containing monomers. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have chosen nitrogen-monomer containing polyacrylonitrile from the list of seven choices for the first emulsion polymer and acrylonitrile from the list of four monomers for the second emulsion polymer because Lindemann et al. expressly indicate that choosing from these groups produces compositions that have improved resiliency and loft recovery, which is favorable for filter substrates.

Regarding claims 20, 25 and 30, Lindemann et al. disclose wherein the crosslinkable functionality is provided by a self-crosslinking monomer selected from the group as instantly claimed (col.7, line 65-col.8, line 2).

Claims 18, 19, 23, 24, 28, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindemann et al. (5,190,997) in view of Freidzon (5,629,370). Lindemann et al., as applied to Claim 6 above, are as set forth and incorporated herein. Lindemann et al. do not appear to specifically disclose wherein the polyvinyl alcohol is fully or partially hydrolyzed. Freidzon teaches that in an emulsion polymer system comprising PVA as a protective colloid with a very limited amount of phenolics, PVA that is fully or partially hydrolyzed can be applied (col.2, lines 53-63). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied fully hydrolyzed or partially hydrolyzed PVA as taught by Freidzon to the composition as taught by Lindemann et al. because Freidzon teaches that fully or

partially hydrolyzed PVA can be applied interchangeably resulting in a more versatile composition.

Response to Arguments

Regarding applicant's arguments concerning the 102 rejections over Friedzon and Mueller-Mall et al., that these references do not include the amended amount of nitrogen-containing monomer, these arguments are convincing.

Regarding applicant's arguments that Lindemann et al. do not teach or disclose an amount of nitrogen-containing monomers as claimed, these arguments are not convincing. Lindemann et al. disclose a preferable composition of a first polymer emulsion such as of polyacrylonitrile and a second polymer made from monomers of acrylonitrile (col.6, lines 21-29), acrylonitrile being a preferred monomer of applicant. Further, Lindemann et al. disclose that the polymer emulsion contains from 5-95%, preferably 30 to 90% by weight of the first polymer emulsion, and preferable 10 to 70% by weight of the second polymer emulsion (col.10, lines 43-47). At the least, this amount is 15% by weight nitrogen-containing monomers.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Keehan whose telephone number is (571) 272-1087. The examiner can normally be reached on Monday-Friday, from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher Keehan

DAVID J. BUTTNER
PRIMARY EXAMINER

February 1, 2005